

U.S. EPA
1200 Sixth Ave
Mail Stop WD-135
Seattle, Washington 98101

Attention: Mr. Bill Chamberlin

January 18, 1991

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WATER COMPLIANCE SECTION
EPA-REGION 10

Consulting Geotechnical
Engineers and Geologists

GeoEngineers is requesting approval from the EPA on behalf of Unimar, Inc. to use an updated laboratory analytical method for the analysis of TBT (Tributyl-Tin). As discussed in our phone conversation on January 15, 1991, Tox-Scan, Inc. the subcontract laboratory to ATI (Analytical Technologies, Inc) has discontinued TBT analysis by Atomic Absorption/ Hydride Generation. The replacement analytical method for TBT is "Measurement of Butyl-Tin Speciation by Pentyl-Derivation with GC" from Battelle Ocean Sciences in Duxbury, MA Ref #N05196300. The replacement method is performed with a GC/FPD (gas chromatography/flame photometric detector) and has detection limits equal to the approved method described in the QA/QC Plan. There is no standard EPA method for TBT analysis. The replacement method has also been approved by the State of California.

A summary of the method supplied by Tox-Scan is presented as follows: Samples are dried with sodium sulfate prior to extraction with a tropolone-hexane mixture. Labile butyl tins are converted to pentyl derivatives by addition of a Grignard reagent. Derived extracts are subjected to a Florisil column cleanup prior to quantitative analysis by GC/FPD.

Thank you for consideration in this matter. Please direct any further questions regarding specific details of the analytical method to Mr. Jim Thoits at Tox-Scan (408) 724-4522. Please call if you have any further questions regarding this project.

Your very truly,
GeoEngineers, Inc.

Paul G. Werner
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Project Hydrogeologist

PGW:

cc: Ms. Ruth A Nelson
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File No. 1299-003-B03

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